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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TARGETING OF HERPES SIMPLEX VIRUS TO SPECIFIC RECEPTORS

(57) Abstract: The invention relates to engineered Herpes simplex virus (HSV) particles that are targeted to one or more specific receptors. Also, recombinant vectors for producing such HSV particles. By reducing the affinity of HSV for its natural receptor(s) and increasing the affinity for a selected receptor, the HSV particles of the invention may be used for targeting cells that express the selected receptor. The ability to selectively target cells renders the HSV particles particularly useful in selectively killing the selected receptor-bearing cells (such as tumor cells), imaging cells bearing the selected receptor, and providing gene replacement therapy to cells bearing the selected receptor.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US03/31598

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : A61K 39/245, 39/12
US CL : 424/229.1, 204.1
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 424/229.1, 204.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,328,688 A (ROIZMAN) 12 July 1994 (12.07.1994), see the claims.	1-49
Y	DEBINSKI et al. Receptor for Interleukin 13 Is a Marker and Theraputic Traget for Human High-Grade Gliomas. Clinical Cancer Research. May 1999, Vol. 5, pages 985-990, see the abstract. .	1-49
Y	SPEAR et al. Three Classes of Cell Surface Receptors for Alphaherpesvirus Entry. Virology. September 2000, Vol. 275, pages 1-8, see entire document.	1-49
Y	ZHOU et al. Cation-Independent Mannose 6-Phosphate Receptor Blocks Apoptosis Induced by Herpes Simplex Virus 1 Mutants Lacking Glycoprotein D and Is Likely the Target of Antiapoptotic Activity of the Glycoprotein. Journal of Virology. June 2002, Vol. 76, No. 12, pages 6197-6204, see the entire document.	1-49
Y	LAQUERRE et al. Heparan Sulfate Proteoglycan Binding by Herpes Simplex Virus Type 1 Glycoproteins B and C, Which Differ in Their Contributions to Virus Attachment, Penetration, and Cell-to-Cell Spread. Journal of Virology. July 1998, Vol. 72, No. 7, pages 6119-6130, see the abstract.	1-49

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	RUX et al. Functional Region IV of Glycoprotein D from Herpes Simplex Virus Modulates Glycoprotein Binding to the Herpesvirus Entry Mediator. Journal of Virology. September 1998, Vol. 72, No. 9, pages 7091-7098, see the abstract.	1-49
Y	ARSENAKIS et al. Expression and Regulation of Glycoprotein C Gene of Herpes Simplex Virus 1 Resident in a Clonal L-Cell Line. Journal of Virology. May 1986, Vol. 58, No. 2, pages 367-376, see the abstract.	1-49
Y	DE VIRES et al. Scintigraphic Imaging of HSVtk Gene Therapy. Current Pharmaceutical Design. 2002, Vol. 8, pages 1435-1450, see the abstract.	1-49

Continuation of B. FIELDS SEARCHED Item 3:
MEDLINE, SCISEARCH, CAPLUS, WEST, DERWENT, JPA, EPA, NPL

search terms: herpesvirus, HSV, IL13, gD, gC, HveC, HvA, ligand